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Substitute for form 1449A/PTO

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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1 of 13

Application Number 09/841,809
Filing Date April 24, 2001
First Named Inventor Meade, T.
Group Art Unit Not Yet Assigned 1652
Examiner Name Not Yet Assigned
Attorney Docket Number A-64789-3/RFT/RMS/RMK

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
RE	1	4,707,352		Stavrianopoulos	11/1987	
	2	4,707,440		Stavrianopoulos	11/1987	
	3	4,711,955		Ward et al.	12/1987	
	4	4,755,458		Rabbani et al.	7/1988	
	5	4,840,893		Hill et al.	6/1989	
	6	4,849,513		Smith et al.	7/1989	
	7	4,868,103		Stavrianopoulos et al.	9/1989	
	8	4,894,325		Englehardt et al.	1/1990	
	9	4,943,523		Stavrianopoulos	7/1990	
	10	4,952,685		Stavrianopoulos	8/1990	
	11	4,994,373		Stavrianopoulos	2/1991	
	12	5,002,885		Stavrianopoulos	3/1991	
	13	5,013,831		Stavrianopoulos	5/1991	
	14	5,082,830		Brakel et al.	1/1992	
	15	5,175,269		Stavrianopoulos	12/1992	
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		Office ³	Number ⁴	Kind Code ² (if known)				
RE	19	EP	0 234 938	A2	Cranfield Inst. of Tech.	2/1987		
RE	20	EP	0 229 943	B1	Molecular Biosystems Inc.	7/1987		
RE	21	EP	0 599 337	A2	Canon Kabushiki Kaisha	1/1994		
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RE	23	EP	0 515 615		Boehringer Mannheim	9/1996		
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RE	25	JP	238,166	A	Mitsubishi Corp.	1988	abstract	
RE	26	JP	6-41183	A2	Mitsubishi Corp.	1994		

Examiner Signature

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Date Considered

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		Filing Date	April 24, 2001	
		First Named Inventor	Meade, T.	
		Group Art Unit	Not Yet Assigned	
		Examiner Name	Not Yet Assigned	
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		Number	Kind Code ² (if known)			
re re	27	5,328,824		Ward et al.	7/1994	
	28	5,403,451		Riviello et al.	4/1995	
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	32	5,552,270		Khrapko et al.	9/1996	
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	35	5,591,578		Meade et al.	1/1997	
	36	5,595,908		Fawcett et al.	1/1997	
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	38	5,620,850		Bamdad et al.	4/1997	
	39	5,705,348		Meade et al.	1/1998	
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re re	44	5,776,672		Hashimoto et al.	7/1998	

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re re	45	WO	90/05732	A1	Columbia Univ.	5/1990		
re re	46	WO	92/10757	A1	Boehringer Mannheim	6/1992		
—	47	WO	93/22678	A2	Mass. Inst. of Technology	11/1993		
re re	48	WO	93/10267	A1	IGEN, Inc.	5/1993		
—	49	WO	94/22889	A1	Cis Bio International	10/1994		
re re	50	WO	95/15971	A2	Calif. Inst. of Technology	6/1995		
re re	51	WO	96/40712	A1	Calif. Inst. of Technology	12/1996		

Examiner Signature	<i>[Signature]</i>	Date Considered	9/9/01
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		Number	Kind Code ² (if known)			
RE	52	5,780,234		Meade et al.	7/1998	
RE	53	5,824,473		Meade et al.	10/1998	
RE	54	5,851,772		Mirzabekov et al.	12/1998	
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RE	57	5,795,453		Gilmartin et al.	08/1998	
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Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
RE	59	WO	97/01646	A2	Univ. of N. Carolina	1/1997		
—	60	WO	97/44651	A1	AU Membrane and	11/1997		
—	61	WO	97/27329	A1	Univ. of Chicago	7/1997		
—	62	WO	98/20162	A2	Clinical Micro Systems	5/1998		
—	63	WO	98/27229	A1	Univ. of Chicago	6/1998		
—	64	WO	98/28444	A2	Univ. of Chicago	7/1998		
—	65	WO	98/35232	A2	Univ. of N. Carolina	8/1998		
—	66	WO	99/67425	A2	Clinical Micro Systems	12/1999		
—	67	WO	99/14596	A1	AB Sangtec Medical	3/1999		
—	68	EP	0 339 821			11/1989		
—	69	EP	0 142 301			05/1985		
—	70	WO	97/27473			07/1997		
—	71	WO	93/25898			12/1993		

Examiner Signature	<i>H. P. L. Smith</i>	Date Considered	9/9/04
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 4

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of

13

Application Number 09/841,809
Filing Date April 24, 2001
First Named Inventor Meade, T.
Group Art Unit Not Yet Assigned 1652
Examiner Name Not Yet Assigned Monshipoun
Attorney Docket Number A-64789-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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—	88	Carter et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," <i>J. Am. Chem. Soc.</i> , 111:8901-8911 (1989).	

Examiner Signature

R. R. Meade

Date Considered

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		Group Art Unit	Not Yet Assigned 1656
		Examiner Name	Not Yet Assigned Monshipen
		Attorney Docket Number	A-64789-3/RFT/RMS/RMK
Sheet 5	of 13		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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R.R.	99	Degani, Y., et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 1. Electron Transfer from Glucose Oxidase to Metal Electrodes via Electron Relays, Bound Covalently to the Enzyme," <i>J. Phys. Chem.</i> , 91(6):1285-1288 (1987).	
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	102	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β -thalassaemia Mutations," <i>Gene</i> , 188:45-52 (1997).	
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Examiner Signature	<i>R. R. Meade</i>	Date Considered	9/9/04
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re.re.	105	Durham, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium Bis(bipyridin) Dicarboxybipyridine Cytochrome c Derivatives," <i>Biochemistry</i> , 28:8659-8665 (1989).	
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re.re.	112	Francois, J-C., et al., "Periodic Cleavage of Poly(dA) by Oligothymidylates Covalently Linked to the 1,10-Phenanthroline-Copper Complex," <i>Biochemistry</i> , 27:2272-2276 (1988).	
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		Filing Date	April 24, 2001
		First Named Inventor	Meade, T.
		Group Art Unit	Not Yet Assigned 1652
		Examiner Name	Not Yet Assigned Monshipour
		Attorney Docket Number	A-64789-3/RFT/RMS/RMK

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First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned 1652
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Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned 1652
Examiner Name	Not Yet Assigned Morshapka
Attorney Docket Number	A-64789-3/RFT/RMS/RMK

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		Group Art Unit	Not Yet Assigned 1652
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re. re.	186	Turro, N., et al. "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces," <i>Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf.</i> , 8th, pp 121-139 (1990).	
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re. re.	195	Xu, et al., "Immobilization of DNA on an Aluminum(III) alkanebisphosphonate Thin Film with Electrogenenerated Chemiluminescent Detection," <i>J. Am. Chem. Soc.</i> , 116:8386-8387 (1994).	
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Examiner Signature	<i>re. re. Monshipour</i>	Date Considered	9/9/04
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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	09/841,809
				Filing Date	April 24, 2001
				First Named Inventor	Meade, T.
				Group Art Unit	Not Yet Assigned - 1652
				Examiner Name	Not Yet Assigned Monshipenn
Sheet 1 of 13				Attorney Docket Number	A-64789-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

[illegible]

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 13

Complete if Known

Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned 1652
Examiner Name	Not Yet Assigned Morshon
Attorney Docket Number	A-64789-3/RFT/RMS/RMK

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
re-re	208	4,945,045		Forrest et al.	07/1990	
	209	5,089,112		Skotheim et al.	02/1992	
	210	5,180,968		Bruckenstein et al.	01/1993	
	211	5,356,786		Heller et al.	10/1994	
	212	5,391,272		O'Daly et al.	02/1995	
	213	5,436,161		Bergstrom et al.	07/1995	
	214	5,242,828		Bergstrom et al.	09/1993	
	215	5,824,473		Meade et al.	10/1998	
	216	6,060,023		Maracas	05/2000	
	217	6,060,327		Keen	05/2000	
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	219	6,087,100		Meade et al.	07/2000	
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	223	6,180,352		Meade et al.	01/2001	
	224	6,200,761		Meade et al.	03/2001	
re-re	225	6,238,870		Meade et al.	05/2001	

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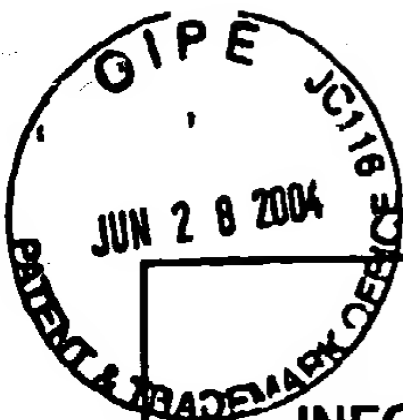
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
	226	WO	97/41425			11/1997		
	227	WO	86/05815	A1	Genetics International Inc.	3/1985		
	228	WO	98/57159	A1	Clinical Micro Systems	6/1997		
	229	WO	99/37819	A2	Clinical Micro Systems	1/1998		

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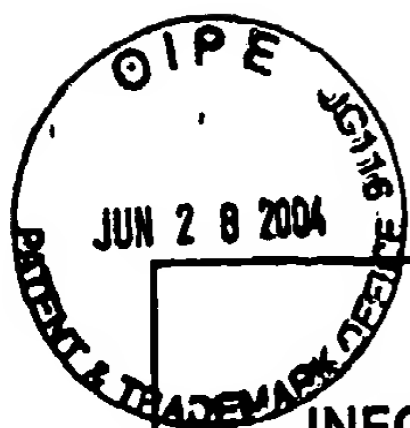
Substitute for form 1449A/PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Complete if Known		
			Application Number	09/841,809	
			Filing Date	April 24, 2001	
			First Named Inventor	Thomas J. MEADE	
			Art Unit	1652	
			Examiner Name	Monshipouri, Maryam	
Sheet	1	of	4	Attorney Docket Number	A-64789-3/RFT/RMS/RMK (463037-00104)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
R.N.	A1	5,238,808	08-24-1993	Bard et al.	
	A2	5,308,754	05-03-1994	Kankare et al.	
	A3	5,532,128	07-02-1996	Eggers et al.	
	A4	5,565,322	10-15-1996	Heller	
	A5	5,653,939	08-05-1997	Hollis et al.	
	A6	5,670,322	09-23-1997	Eggers et al.	
	A7	5,837,859	11-17-1998	Teoule et al.	
	A8	5,846,708	12-08-1998	Hollis et al.	
	A9	5,871,918	02-16-1999	Thorp et al.	
	A10	5,874,046	02-23-1999	Megerle	
	A11	5,891,630	04-06-1999	Eggers et al.	
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	A13	5,942,388	08-24-1999	Willner et al.	
	A14	5,942,397	08-24-1999	Tarlov et al.	
	A15	5,952,172	09-14-1999	Meade et al.	
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	A20	6,051,380	04-18-2000	Sosnowski et al.	
	A21	6,066,448	05-23-2000	Wohlstadter et al.	
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	A23	6,090,933	07-18-2000	Kayyem et al.	
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	A26	6,140,045	10-31-2000	Wohlstadter et al.	
	A27	6,162,603	12-19-2000	Heller	
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	A29	6,221,583 B1	04-24-2001	Kayyem et al.	
	A30	6,232,062 B1	05-15-2001	Kayyem et al.	
	R.N.	A31	6,248,229 B1	06-19-2001	Meade

Examiner Signature	<i>[Signature]</i>	Date Considered	9/9/04
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				Application Number	09/841,809
				Filing Date	April 24, 2001
				First Named Inventor	Thomas J. MEADE
				Art Unit	1652
				Examiner Name	Monshipouri, Maryam
Sheet	2	of	4	Attorney Docket Number	A-64789-3/RFT/RMS/RMK (463037-00104)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
re	A32	6,258,545 B1	07-10-2001	Meade et al.	
	A33	6,268,149 B1	07-31-2001	Meade et al.	
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	A35	6,277,576 B1	08-21-2001	Meade et al.	
	A36	6,291,188 B1	09-18-2001	Meade et al.	
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	A38	6,322,979 B1	11-27-2001	Bamdad et al.	
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	A40	6,379,897 B1	04-30-2002	Weidenhammer et al.	
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re	A51	2004/0101890 A1	05-27-2004	Meade et al.	
	A52				
	A53				

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Examiner Initials*	Cite No.	Foreign Patent Document Country Code ² Number ⁴ Kind Code ³ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
re	B1	EP 0478319 B1	04-01-1992	Toshiba		
re	B2	EP 0668502 B1	05-22-2002	Yissum Research Development		
re	B3	WO 98/12539 A1	03-26-1998	Meso Scale Technologies, LLC		

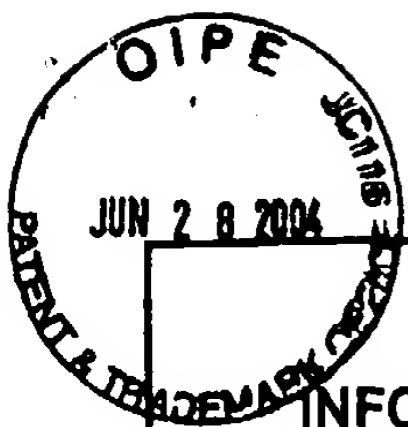
Examiner Signature	<i>re. Monshipouri</i>	Date Considered	9/9/04
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				Art Unit	1652
Examiner Name	Monshipouri, Maryam				
Sheet	3	of	4	Attorney Docket Number	A-64789-3/RFT/RMS/RMK (463037-00104)

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re	B4	WO 98/31839 A2, A3	07-23-1998	Presidents & Fellows of Harvard College		
re	B5	WO 98/57158 A1	12-17-1998	Clinical Micro Sensors		
—	B6	WO 99/57317 A1	11-11-1999	Clinical Micro Sensors		
—	B7	WO 99/57319 A1	11-11-1999	Clinical Micro Sensors		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
re	C1	BAIN et al., "Formation of Monolayers by the Coadsorption of Thiols on Gold: Variation in the Length of the Alkyl Chain," Journal of the American Chemical Society, 1989, 111:7164-7175.	
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re	C10	LAIBINIS et al., "Orthogonal Self-Assembled Monolayers: Alkanethiols on Gold and Alkane Carboxylic Acids on Alumina," Science, 1989, 245:845-847.	
re	C11	LANGEN et al., "Electron Tunneling in Proteins: Coupling Through a β Strand," Science, 1995, 268:1733-1735.	
Examiner Signature	[Signature]		Date Considered 9/9/04

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				Filing Date	April 24, 2001
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				Art Unit	1652
				Examiner Name	Monshipouri, Maryam
Sheet	4	of	4	Attorney Docket Number	A-64789-3/RFT/RMS/RMK (463037-00104)

NON PATENT LITERATURE DOCUMENTS				
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re	C12	MUTZ et al., "Conformational dependence of electron transfer across de novo designed metalloproteins," Proceedings of the National Academy of Science USA, 1996, 93:9521-9526.		
re	C13	NAPIER et al., "Probing biomolecule recognition with electron transfer: electrochemical sensors for DNA hybridization," Bioconjugate Chemistry, 1997, 8:906-913.		
re	C14	RACK, J. J., et al., "Spectroscopy and Electrochemistry of Ruthenium-Modified Nucleic Acids: Design of a Novel-Metal Binding Nucleoside," Journal of the American Chemical Society, 2000, 122:6287-6288.		
re	C15	UVERSKY et al., "Effect of Natural Ligands on the Structural Properties and Conformational Stability of Proteins," Biochemistry (Moscow), 1998, 63(4):420-433.		

Examiner Signature		Date Considered	4/9/04
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